Amendment to the Claims:

1. (Cancelled)

2. (Currently Amended) A method of magnetic resonance imaging using a magnetic resonance imaging scanner which generates a magnetic field that is more linear adjacent a magnetic isocenter and ~~has~~ is less linear displaced from the magnetic isocenter, the method comprising:

obtaining a first magnetic resonance image of a patient including an anatomical target and ~~a~~ at least one fiducial marker displaced from the anatomical target, the first image being obtained at a position of the patient within said scanner wherein the anatomical target is located in close vicinity to said magnetic isocenter and the at least one fiducial marker is located further from the magnetic isocenter than the anatomical target, such that a region of the first image which includes the anatomical target is less distorted than a region which includes the at least one fiducial marker;

obtaining a second magnetic resonance image of the patient including the anatomical target and the at least one fiducial marker, the second image being obtained at a shifted position of the patient within said scanner wherein the at least one fiducial marker is located in close vicinity to said magnetic isocenter and the anatomical region is located further from the magnetic isocenter than the at least one fiducial marker such that a region of the second image which includes the at least one fiducial marker is less distorted than a region which includes the anatomical target;

merging the less distorted region of the first image which includes the anatomical target and the less distorted region of the second image which includes the at least one fiducial marker into a composite image; and

at least one of storing the composite image in computer memory and displaying the composite image on a monitor.

3. (Currently Amended) The method as claimed in claim 2, further including:

shifting of the patient relative to the magnetic isocenter between the first and second images and measuring the shift and wherein accurate geometrical positions of the target and the at least one fiducial marker are determined using the measured shift of the patient.

4. (Previously Presented) The method as claimed in claim 2, further including:

overlapping corresponding parts in the first and second images to form said composite image.

5. (Currently Amended) The method as claimed in claim 2, wherein an optimal Field-of-View (FOV) is determined having geometrical positions with a prescribed accuracy for the target in the first image and the at least one fiducial marker in the second image.

6. (Previously Presented) The method as claimed in claim 2, wherein said fiducial markers are applied left and right laterally on the patient.

7. (Previously Presented) The method as claimed in claim 2, wherein said fiducial markers are applied laterally on both sides anterior and posterior on the patient.

8. (Currently Amended) The method as claimed in claim ~~1~~2, wherein said fiducial markers are applied anterior or posterior on the patient.

9. (Currently Amended) The method as claimed in claim 2, further including:

- shifting the patient to locate each of a plurality of additional fiducial markers in close vicinity to the magnetic isocenter,

- obtaining additional magnetic resonance images with each of the additional fiducial markers in close vicinity to the magnetic isocenter, and

- merging the additional magnetic resonance images with the first and second images to form the composite image.

10. (Cancelled)

11. (Currently Amended) A magnetic resonance imaging system which generates a magnetic field with a magnetic center, as origin for locating an anatomical target in a patient wherein at least one fiducial marker is ~~applied to the~~ adapted to be placed on~~body of~~ the patient, the magnetic resonance imaging system comprising:

- means for acquiring a first magnetic resonance image of the anatomical target, wherein the anatomical target is imaged at its accurate geometrical position, and

- means for acquiring a second magnetic resonance image at a shifted position relative to the first magnetic resonance image, wherein the fiducial marker is imaged at its accurate geometrical position,

- an image processing system for merging the accurate geometrical position of the target and the accurate geometrical position of the fiducial marker in a single image.

12. (Previously Presented) The magnetic resonance imaging system as claimed in claim 11, further comprising:

- means for scanning the patient to develop a magnetic resonance image data set of the patient, which means allows movement of the patient sideways,

- a patient table which permits repositioning of the patient in the left-right direction to bring various regions of interest across the patient in close vicinity of the magnetic center of the magnetic field.

13. (Cancelled)

14. (Cancelled)

15. (Currently Amended) A computer program product comprising a computer readable medium in which is embodied a program having instructions executable by a computer to control ~~an~~ a magnetic resonance imaging system, comprising instructions to:

- acquire a first magnetic resonance image of ~~the~~ an anatomical target that includes an accurate lower geometric distortion region and a higher geometric distortion region, wherein in the first image, the anatomical target is imaged in the accurate lower geometrical distortion region, and

- acquire a second magnetic resonance image with ~~a~~ at least one fiducial marker located at a shifted position relative to the first magnetic resonance image, wherein in the second image, the at least one fiducial marker is imaged in the accurate lower geometrical distortion region.

16. (Previously Presented) The computer program product as claimed in Claim 15 comprising instructions to:

merge the first magnetic resonance image with the target in the accurate lower geometrical distortion region and the second magnetic resonance image with the at least one fiducial marker in the accurate lower geometrical distortion region into a single image.

17. (Currently Amended) The computer program product as claimed in claim 15, further comprising instructions to:

- apply the at least one fiducial marker to a body of a patient at a predetermined distance from the magnetic isocenter;

- position said patient within said ~~scanner~~ magnetic resonance imaging system such that an anatomical target to be visualized located closer to said magnetic isocenter than the fiducial marker before acquiring the first magnetic resonance image; and

- shift the patient in such a way that the at least one fiducial marker is closer to the magnetic isocenter than the anatomical target before acquiring the second anatomical image.

18. (Previously Presented) A computer program product comprising a computer readable medium in which is embodied a program having instructions executable by a computer to perform the steps of:

- receiving a first magnetic resonance (MR) image from a MR scanner of an anatomical target of a patient within a field of view (FOV), wherein the anatomical target is imaged at an accurate geometrical position of the FOV,

- receiving a second magnetic resonance image from the MR scanner of a fiducial marker attached to the patient within the FOV, the second magnetic resonance image being at a shifted position relative to the first magnetic resonance image such that the fiducial marker is imaged at the accurate geometrical position of the FOV,

- obtaining additional magnetic resonance images of additional fiducial markers within the FOV, the additional magnetic resonance images being at shifted positions relative to the first magnetic resonance image such that the additional fiducial markers are imaged at the accurate geometrical position of the FOV, and

- merging the accurate geometrical position of the target and the accurate geometrical position of the fiducial markers in a single composite image, the composite image depicting the accurate geometrical positions of the anatomical target and the fiducial markers.

19. (Previously Presented) The system as claimed in claim 11, wherein the accurate geometrical position is closely adjacent a magnetic isocenter.

20. (Currently Amended) The computer program product as claimed in claim 15, wherein the accurate lower geometrical distortion region of the FOV is adjacent ~~an~~ a magnetic isocenter of the magnetic resonance imaging system.

21. (Currently Amended) A method ~~for planning radiotherapy treatment using magnetic resonance (MR) images obtained by a MR scanner, the method~~ comprising:

generating a magnetic field with an MR scanner having a magnetic isocenter, an optimal field-of-view (FOV) surrounding the isocenter and sized to have a geometrical accuracy within a preselected tolerance;

applying at least one fiducial marker to a body of the patient at a distance from an anatomical target;

obtaining a first MR image of the patient at a first position in which the anatomical target is positioned within the optimal FOV,

obtaining a second MR image of the patient at a second position in which the fiducial marker is positioned within an optimal FOV, the second position being shifted relative to the first position,

creating a composite image by merging the optimal FOV with the target and the optimal FOV with the fiducial marker by overlapping corresponding parts in the first and second MR images such that the composite image accurately displays relative geometric positions of the anatomical target and the fiducial marker, and

at least one of storing and displaying the composite image.

22. (Previously Presented) A system comprising:

means for receiving a first MR image of a patient in a first position in which an anatomical target is within an optimal FOV which is sufficiently adjacent an isocenter of a magnetic field used to generate the first MR image to have a preselected geometrical accuracy;

means for receiving a second MR image of the patient in a second position in which a fiducial marker is within the optimal FOV, the second position being shifted relative to the first position;

means for overlapping corresponding parts in the first and second MR images to create a composite image in which the anatomical target and the fiducial marker are depicted with the preselected geometrical accuracy.